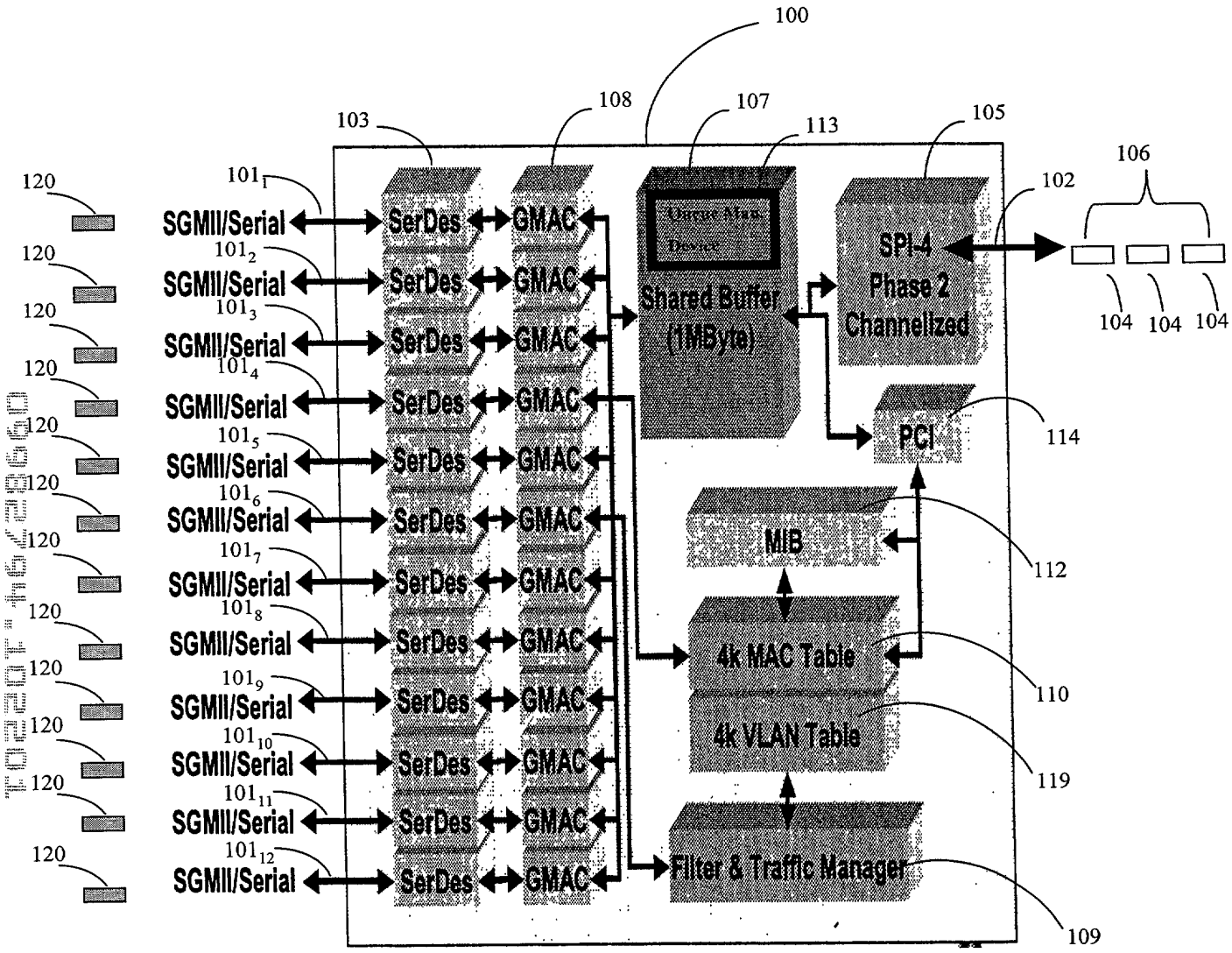

100
103
108
107
113
105
106
102
120
101_1
SGMII/Serial
SerDes
GMAC
101_2
101_3
101_4
101_5
101_6
101_7
101_8
101_9
101_{10}
101_{11}
101_{12}
Queue Man. Device
Shared Buffer (1MByte)
SPI-4 Phase 2 Channelized
104
PCI
114
MIB
112
4k MAC Table
110
4k VLAN Table
119
Filter & Traffic Manager
109

FIG. 1

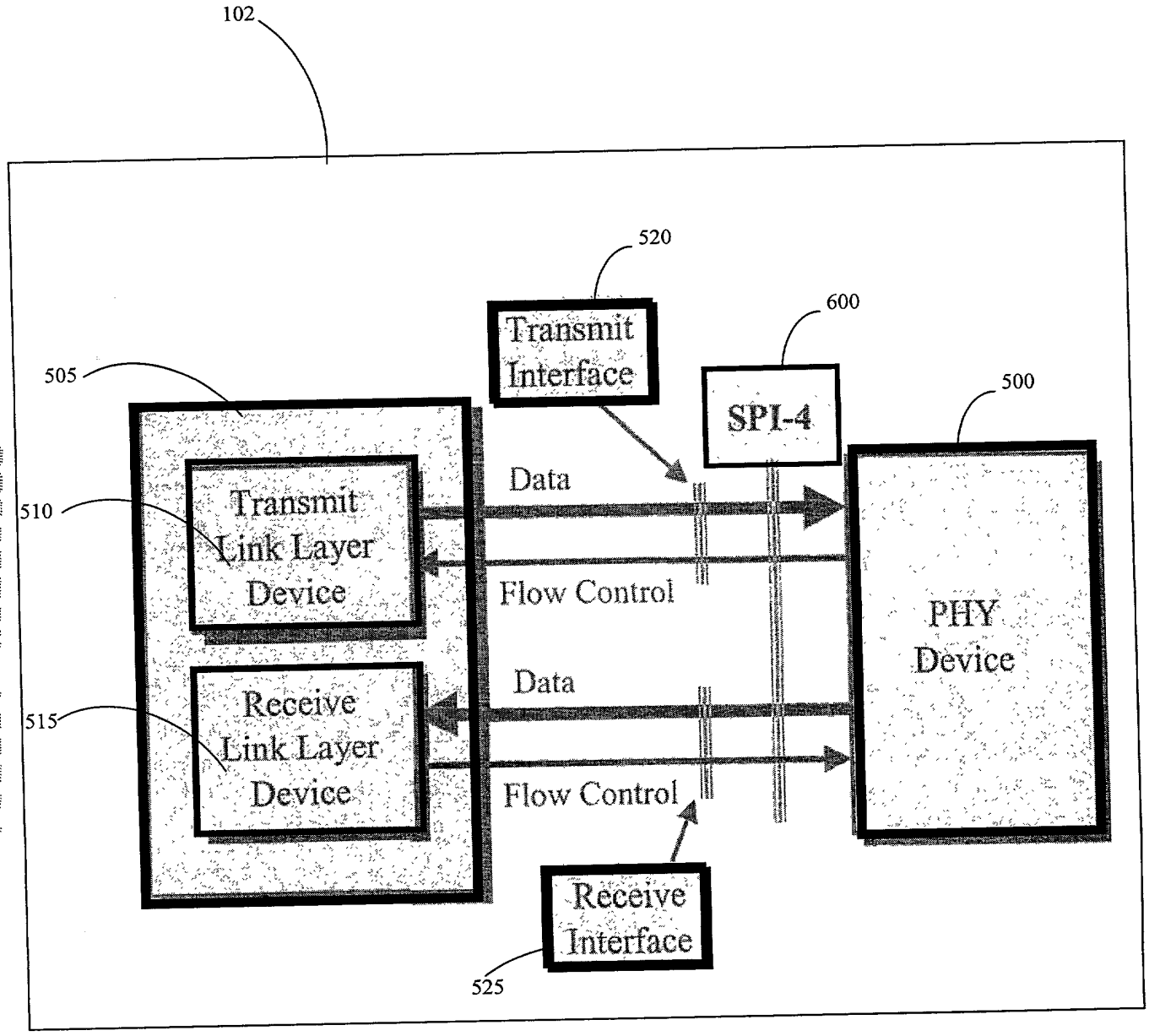

102
520
Transmit Interface
600
SPI-4
500
505
Transmit Link Layer Device
510
Data
Flow Control
PHY Device
Data
515
Receive Link Layer Device
Flow Control
Receive Interface
525

FIG. 2

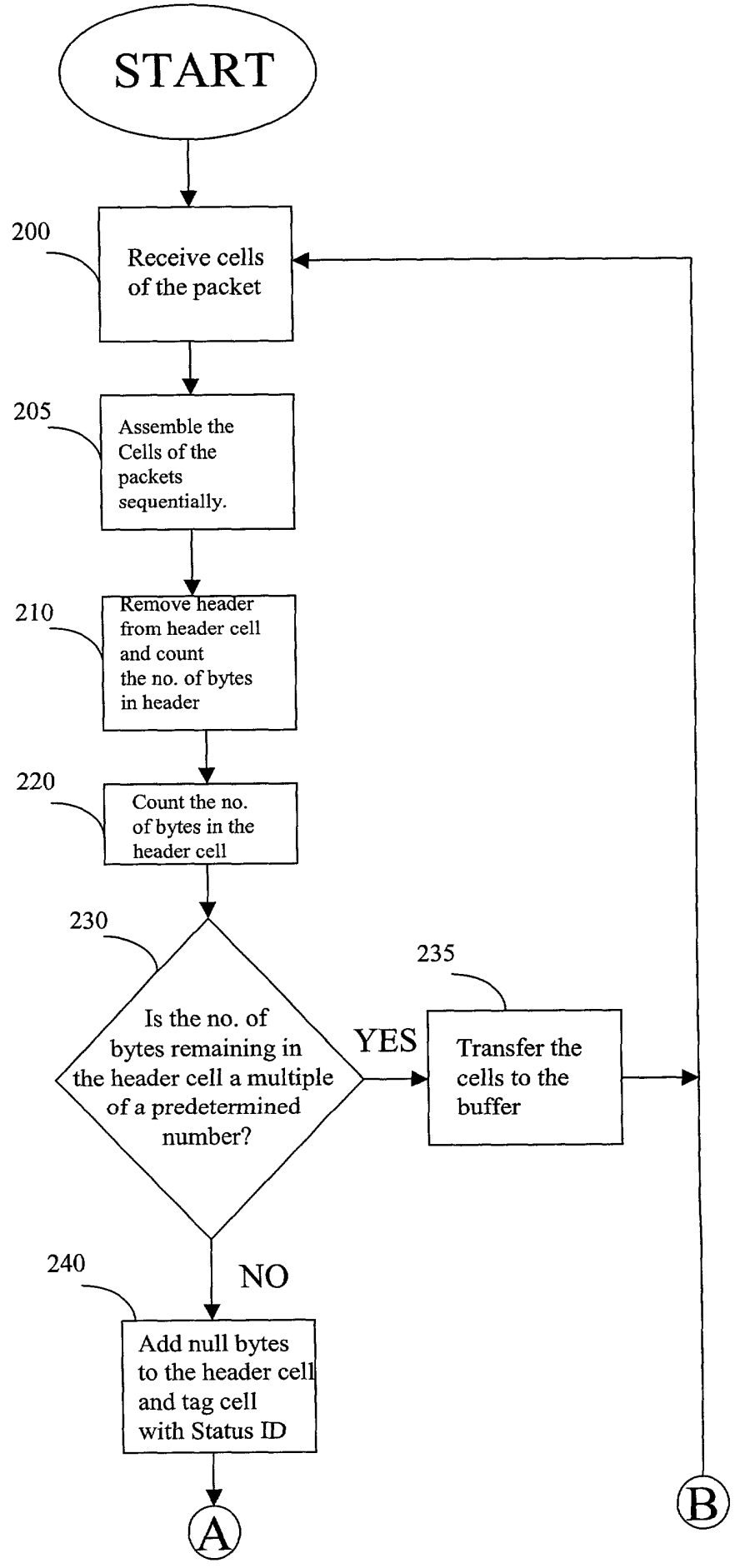

START
200
Receive cells of the packet
205
Assemble the Cells of the packets sequentially.
210
Remove header from header cell and count the no. of bytes in header
220
Count the no. of bytes in the header cell
230
Is the no. of bytes remaining in the header cell a multiple of a predetermined number?
YES
235
Transfer the cells to the buffer
NO
240
Add null bytes to the header cell and tag cell with Status ID
A
B

FIG. 3A

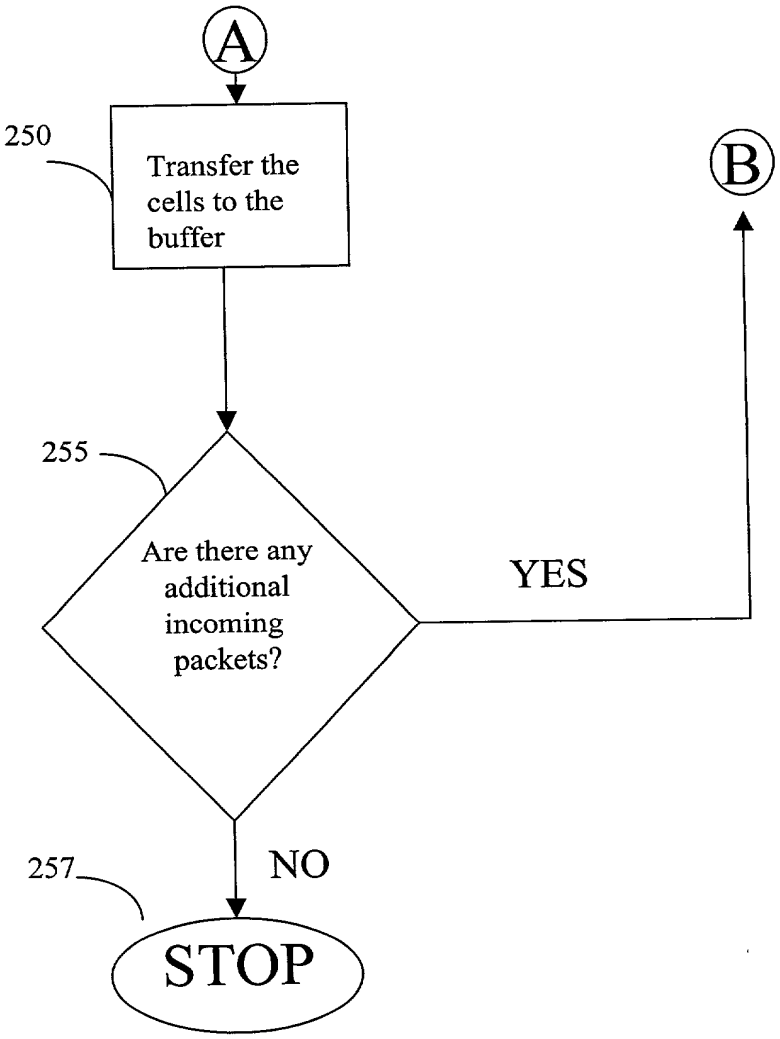

A
250
Transfer the cells to the buffer
B
255
Are there any additional incoming packets?
YES
NO
257
STOP

FIG. 3B

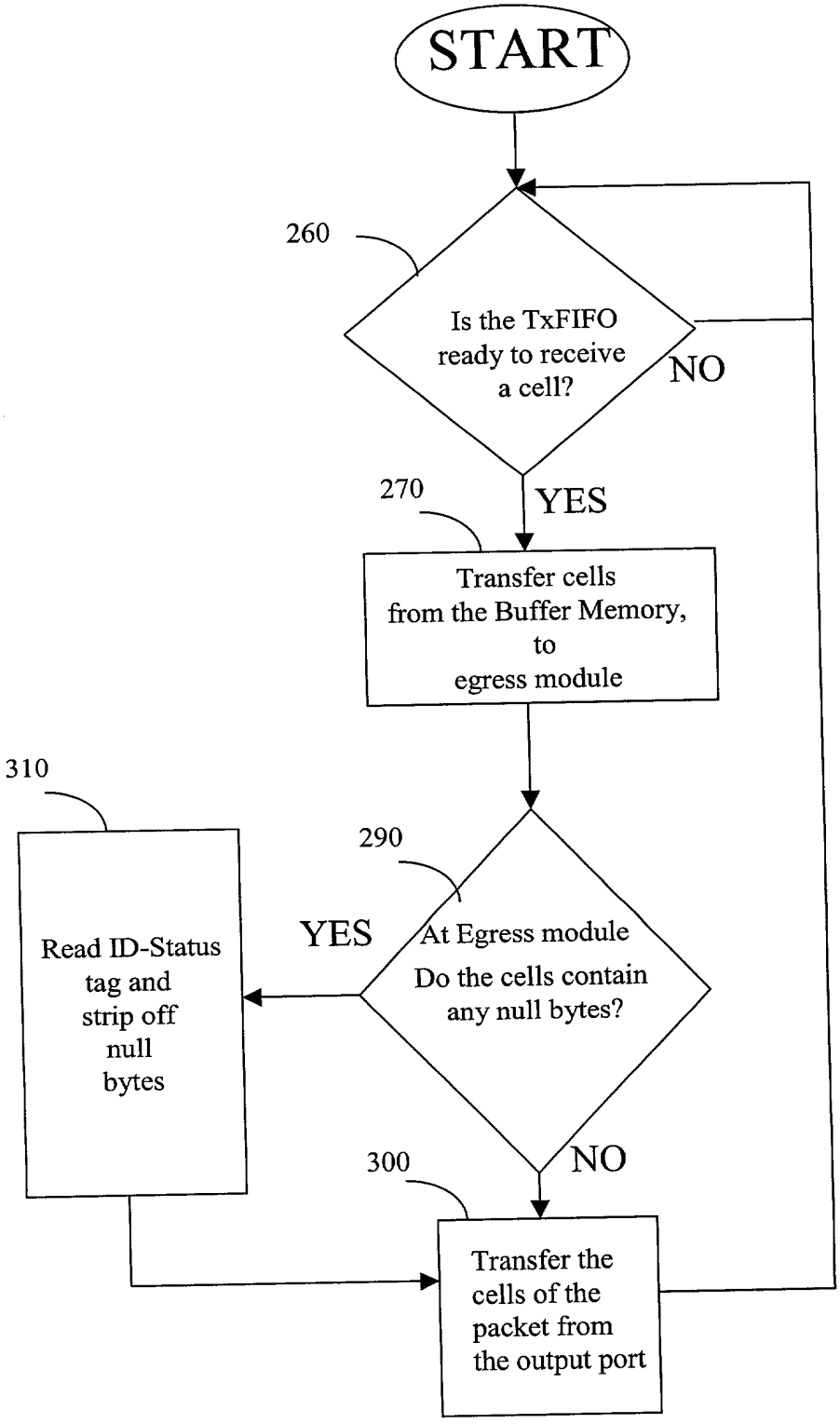
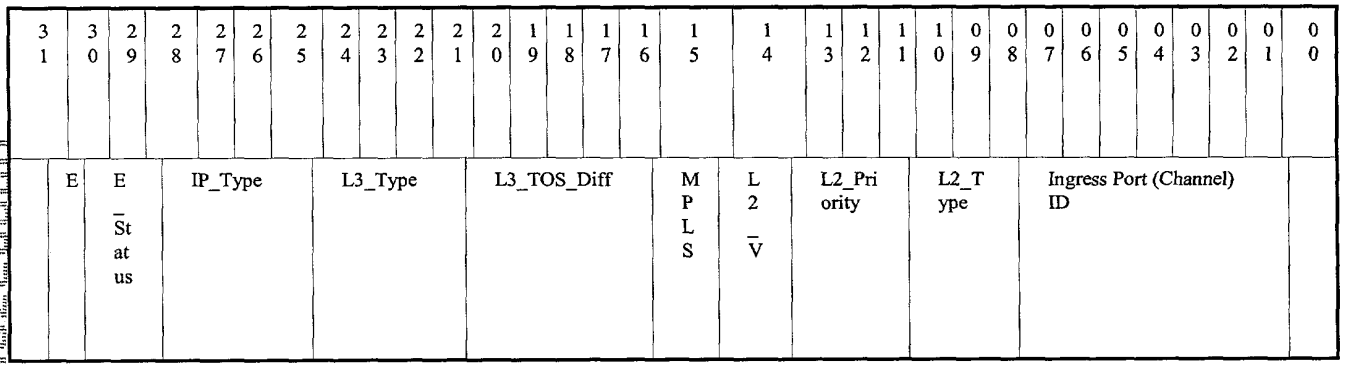

START
260
Is the TxFIFO ready to receive a cell?
NO
YES
270
Transfer cells from the Buffer Memory, to egress module
290
At Egress module Do the cells contain any null bytes?
YES
310
Read ID-Status tag and strip off null bytes
NO
300
Transfer the cells of the packet from the output port

FIG. 3C

350

MAC Header Word 1



Bit	Name	Description
31	Error	0: Frame contains no MAC-detectable error 1: Frame contains error - See E_Status for detail
30~29	E_Status	00: reserved 10: L3 Header Checksum Error 11: L3 IP Header TTL<=1

FIG. 4A

350

28~26	IP_Type	IP (Layer 4) Protocol Type 000: TCP 001: UDP 010: ICMP 011: IGMP 100 ~ 110: reserved 111: Other - Not Recognized
25~22	L3_Type	Layer 3 Frame Type - Please note that for bit 25= (IP type) bit 23 signifies option field use, and bit 22, fragmentation. 0000: IPv4 - Not Fragmented and No Option Field in Use 0001: IPv4 - Fragmented and No Option Field in Use 0010: IPv4 - Option Field in Use 0011: IPv4 - Fragmented and Option Field in Use 0100 ~ 1110: reserved 1111: Other - Not Recognized
21~16	L3_TOS_Diff	Value of IP TOS/Diffserv field content.
15	MPLS Status	MPLS Label Status 0: No Label Stack 1: MPLS Label Present
14	L2_VTAG	802.1Q VLAN Tag Status 0: No VLAN Tag 1: VLAN Tag Present
13~11	L2 Priority	Value of 802.1Q VLAN Priority from Tag or default Please note if Token Ring, FDDI MAC is implemented, this value is copied from the MAC frame, if a tag is not available.
10~8	L2_Type	Layer 2 Frame Type 000: Ethernet Version 2 001: PPP 010: IEEE 802.3/802.2 SNAP 011: IEEE 802.3/802.2 SAP 100: reserved 101: null (raw MPLS datagram) - Ingress must specify this 110: null (raw L3 datagram) - Ingress must specify this 111: Unprocessed - All other fields are meaningless.
7~0	InPortID	Ingress Port (Channel) ID

FIG. 4B